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M2 7BD, United Kingdom**(51) INT CL<sup>6</sup>**C11D 1/94**

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(56) Documents Cited

**GB 1443959 A****EP 0573341 A2****EP 0573329 A2****WO 94/25554 A1****US 4595526 A****US 4224195 A**

(58) Field of Search

**UK CL (Edition O ) CSD DHF DHG DHZ****INT CL<sup>6</sup> C11D 1/94****ONLINE: WPI, CLAIMS**

(54) **Personal cleansing composition comprising a non-ionic surfactant, an anionic surfactant and an amphoteric surfactant**

(57) A cleansing composition, which has good lathering properties but does not cause eye irritation (especially for use as shower gels), comprises a non-ionic surfactant (preferably 8 to 45% by weight), an anionic surfactant (preferably 1 to 20% by weight) and an amphoteric surfactant (preferably 1 to 20% by weight), wherein the weight ratio of non-ionic surfactant to anionic surfactant is at least 2:1 and the weight ratio of anionic surfactant to amphoteric surfactant is at least 2:1.

The non-ionic surfactant is preferably selected from polysorbates, ethoxylated (C9 to C15) alcohols having from 1 to 12 ethoxy groups and, especially, (C8 to C16) alkyl polyglucosides; the anionic surfactant selected from optionally-substituted (especially ethoxylated) (C8 to C18) alkyl sulphonates, alkyl sulphosuccinates, (C8 to C18) acyl isethionates, acyl glutamates and acyl sarcosinates; and the amphoteric surfactant (which is preferably water-soluble) selected from alkyl betaines, alkyl amidobetaines, acyl amphopropionates, acyl amphoglycinates and amine oxides.

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PERSONAL CLEANING COMPOSITION

This invention relates to a personal cleaning composition and more particularly a personal cleaning composition having low eye irritation.

Personal cleaning compositions with low eye irritation have been developed for babies and small children. The compositions are usually in the form of shampoos or bath foams. No attempt has been made to develop these products into shower gels of low eye irritation mainly because when formulated as shower gels they have a very low lather volume. If a shower gel does not develop a good lather it is perceived by the public as having poor cleaning properties and hence is unlikely to achieve satisfactory sales.

The object of the invention is to provide a personal cleaning composition of low eye irritation and which will develop a good lather when used in the shower.

According to the invention there is provided a personal cleaning composition comprising a non-ionic surfactant, an anionic surfactant and an amphoteric surfactant, the weight ratio of nonionic surfactant to anionic surfactant being at least 2:1 and the weight

ratio of anionic surfactant to amphoteric surfactant being at least 2:1.

In a preferred embodiment of the invention the weight ratio of nonionic surfactant to anionic surfactant is preferably at least 3:1 and more preferably at least 5:1 and even more preferably 6:1.

The preferred weight ratio of anionic surfactant to amphoteric surfactant is at least 2.1:1. In addition it is preferred that the level of active material in the composition should not exceed 40% by weight preferably not exceed 30% by weight, more preferably not exceed 20% by weight and in some cases not exceed 10% by weight.

It has been found that compositions in accordance with the invention having high levels of nonionic surfactant in relation to anionic surfactant and amphoteric surfactant, have low eye irritation and at the same time can produce a good lather.

The nonionic surfactants that can preferably be used in the composition of the invention include C8-16 alkyl polyglucosides, polysorbates and ethoxylated C9-15 alcohols (there being from 1 to 12 ethoxyl substitutions). Particularly preferred are the alkyl polyglucosides since they give a very good lather

volum and substantivity to the skin. The preferred amount of nonionic surfactant in the composition is from 8 to 45% by weight of the total composition.

Amphoteric surfactants for use in the present invention are those which give improved skin feel and boost the lather foam and stability. Amphoteric surfactants which can preferably be used in the composition of the invention include water soluble amphoteric surfactants such as alkyl betaines, alkyl amido betaines, acyl amphopropionates, acyl amphoglycinates and amine oxides. The preferred amount of amphoteric surfactant in the composition is from 1 to 20% by weight of the total composition.

Preferred anionic surfactants include substituted (for example ethoxylated) or unsubstituted C8-18 alkyl sulphonates, alkyl ether sulphates alkyl sulphosuccinates, C8-18 acyl isethionates, acyl glutamates and sarcosinates. The preferred amount of anionic surfactant is from 1 to 20% by weight of the total composition.

The composition may include additional ingredients such as preservatives, fragrance and other materials that are conventionally included in compositions of this type.

EXAMPLE

A shower gel was formulated as follows, all percentages being by weight:-

	%
Alkyl polyglucose	12.93
Sodium lauryl ether sulphate	4.00
Cocamidopropyl betaine	1.9
Euxyl K400 (preservative)	0.08
Citric Acid (10%)	2.80
Fragrance	0.70
Water	balance

The composition was found to have low eye irritation coupled with the ability to produce a high lather.

The invention is not restricted to the aforementioned specific example and many variations and modifications can be made.

CLAIMS

1. A personal cleaning composition comprising a nonionic surfactant, an anionic surfactant and an amphoteric surfactant, characterised in that the weight ratio of nonionic surfactant to anionic surfactant being at least 2:1 and the weight ratio of anionic surfactant to amphoteric surfactant being at least 2:1.
2. A composition as claimed in Claim 1, wherein the anionic surfactant is selected from substituted or unsubstituted C8-18 alkyl sulphonates, alkyl sulphosuccinates, C8-18 acyl isethionates, acyl glutamates and sarcosinates.
3. A composition as claimed in any preceding claim, wherein the nonionic surfactant is selected from alkyl polyglucosides having from 8 to 16 carbons, polysorbates, alcohols having from 9 to 15 carbons and having from 1 to 12 ethoxyl substitutions.
4. A composition as claimed in any preceding claim, wherein the amphoteric surfactant is selected from water soluble surfactants, preferably alkyl betaines, alkyl amido betaines, acyl amphopropionates, acyl amphoglycinates and amine oxides.



Application No: GB 9615326.7

Claims searched: 1 to 4

Examiner: Colin Sherrington

Date of search: 18 November 1996

### Patents Act 1977

### Search Report under Section 17

#### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK CI (Ed.O): C3H(DHF,DHG,DHZ)

Int CI (Ed.6): C11D 1/94

Other: ONLINE: WPI, CLAIMS

#### Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	GB 1443959 (THE PROCTER & GAMBLE COMPANY) - whole document, especially page 1, line 31 to page 2, line 43; page 3, lines 1 to 44; EXAMPLE IV; page 7, line 25 to page 8, line 26; claims 1, 5, 6, 8 to 15	1 to 4
X	EP 0573329 A2 (COLGATE-PALMOLIVE COMPANY) -whole document, especially page 3, lines 36 to 50; page 3, line 54 to page 5, line 42; EXAMPLES 1A to 1D, 1E to 1I, 2A to 2D, 3A to 3E; claims 1, 4 to 6	1 to 4
X	EP 0573341 A2 (COLGATE-PALMOLIVE COMPANY) -whole document, especially page 3, lines 35 to 49; page 3, line 51 to page 5, line 40; EXAMPLE 1G; claims 1, 4 to 7	1 to 4
X	WO 94/25554 A1 (COLGATE-PALMOLIVE COMPANY) -whole document, especially page 5, lines 3 to 16; page 6, line 1 to page 10, line 26; EXAMPLES 1A to 1D, 1F to 1H; claims 1, 3 to 7	1 to 4

X Document indicating lack of novelty or inventive step  
Y Document indicating lack of inventive step if combined with one or more other documents of same category.

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A Document indicating technological background and/or state of the art.  
P Document published on or after the declared priority date but before the filing date of this invention.

E Patent document published on or after, but with priority date earlier than, the filing date of this application.



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Category	Identity of document and relevant passage		Relevant to claims
X	US 4224195	(KABUSHIKI KAISHA TSUMARA JUTENDO) - especially TABLE 3, columns 5 and 6, VII to XII	1 to 4
X	US 4595526	(COLGATE-PALMOLIVE COMPANY) -whole document, especially column 3, lines 31 to 59; column 4, line 46 to column 7, line 28; EXAMPLE 16; claims 1, 4 to 6.	1 to 4

X Document indicating lack of novelty or inventive step  
Y Document indicating lack of inventive step if combined with one or more other documents of same category.  
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A Document indicating technological background and/or state of the art.  
P Document published on or after the declared priority date but before the filing date of this invention.  
E Patent document published on or after, but with priority date earlier than, the filing date of this application.